

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A transmission and reception system for data broadcast, including a transmission apparatus which transmits a data broadcasting content and a receiving apparatus which receives and presents the transmitted data broadcasting content, the transmission apparatus comprising:
a presentation schedule time obtaining means for obtaining a presentation schedule time when the data broadcasting content is to be presented,
a data broadcasting content transmission means for starting to transmit the data broadcasting content before the presentation schedule time, starting to transmit preceding data broadcasting content and then the data broadcasting content before the presentation schedule time, each of the preceding data broadcasting content and the data broadcasting content being repeatedly transmitted,
the preceding data broadcasting content including first control information including an instruction which instructs the receiving apparatus to, on reception of an invisible presentation instruction message, start to receive the data broadcasting content and designate the data broadcasting content to be presented,
the data broadcasting content including image structure information and second control information, the second information including
(a) an instruction which instructs the receiving apparatus to, when the data broadcasting content is designated to be presented, form an image according to the image structure information and invisibly present the image,

(b) an instruction which instructs the receiving apparatus to, on reception of a presentation start instruction message, visibly present the image; and

a message transmission means for transmitting a presentation start instruction message at the presentation schedule time; and (i) transmitting the invisible presentation instruction message at a time when the data broadcasting contents transmission means starts to transmit the data broadcasting content, and (ii) transmitting the presentation start instruction message at the presentation schedule time, and

the receiving apparatus including an event-driven mechanism that executes an instruction corresponding to a received message, comprising:

a data broadcasting contents reception and presentation means for receiving the transmitted data broadcasting content and invisibly presenting the data broadcasting content, the invisible presentation of the data broadcasting content meaning a state where a series of processes relating to the presentation prior to a process by which the data broadcasting content becomes visible are performed, and the broadcasting content still remains invisible, and preceding data broadcasting content, starting to receive the data broadcasting content on reception of the invisible presentation instruction message, designating the data broadcasting content to be presented on completion of receiving the data broadcasting content, forming the image in accordance with the second control information, and invisibly presenting the image; and

a data broadcasting contents visualization means for visualizing the invisibly presented data broadcasting content, when the transmitted presentation start instruction message is received, visibly presenting the image which has been invisibly presented by the data broadcasting contents reception and presentation means, on reception of the presentation start instruction message.

2-3. (Cancelled)

4. (Currently Amended) The transmission and reception system for data broadcast of claim [[3]] 1, wherein

~~the data broadcasting contents reception and presentation means performs processes required by the time when the image has been stored in a frame memory in accordance with the image structure information, which is realized by prohibiting signals based on the image in the frame memory from being outputted to a display apparatus connected to the receiving apparatus, relating to the invisible presentation of the data broadcasting content, and~~

~~the data broadcasting contents visualization means visualizes the data broadcasting content by allowing the signals based on the image in the frame memory to be outputted to the display apparatus connected to the receiving apparatus.~~

to invisibly present the data broadcasting content, the data broadcasting contents reception and presentation means forms the image according to the image structure information, stores the image in a frame memory, and prohibits outputting a signal indicating the image, to a display apparatus to which the receiving apparatus is connected, and

to visibly present the image, the data broadcasting contents visualization means allows output of the signal indicating the image, to the display apparatus.

5. (Currently Amended) The transmission and reception apparatus for data broadcast of claim 4, wherein

~~the preceding data broadcasting content further includes preceding image structure information to form an image as an object for presentation that is to be presented, the instruction in the first control information instructs, when the invisible presentation instruction message is received, to bring the visibly presented image to an invisible state, then start to receive the data broadcasting content, and designate the data broadcasting content as an object for presentation, and the receiving~~

apparatus to, on reception of the invisible presentation instruction message, make the image, which is formed according to the preceding image structure information and visibly presented, invisible, before starting to receive the data broadcasting content and designate the data broadcasting content to be presented, and

~~the data broadcasting contents reception and presentation means visibly presents the image in accordance with the preceding image structure information after the preceding data broadcasting content is received, and, when the invisible presentation instruction message is received, brings the presented image in accordance with the preceding image structure information to an invisible state, and starts to receive the data broadcasting content.~~

(a) on reception of the preceding data broadcasting content, visibly presents the image formed according to the preceding image structure information, and

(b) on reception of the invisible presentation instruction message, makes the image, which is formed and visibly presented according to the preceding image structure information, invisible, before starting to receive the data broadcasting content.

6. (Currently Amended) The transmission and reception system for data broadcast of claim 4, wherein

the preceding data broadcasting content further includes preceding image structure information in order to form an image ~~as an object for presentation that is to be presented,~~

the data broadcasting contents reception and presentation means

(a) includes a memory which has a space where the data broadcasting content and the preceding data broadcasting content can be stored at the same time,

(b) receives the preceding data broadcasting content, and stores the content in the memory, and then visibly presents the image ~~in accordance with formed according to~~ the preceding image structure information, and

(c) on reception of when the invisible presentation instruction message ~~is received~~, starts to receive and store the data broadcasting content ~~and store the content~~ in the memory, and, ~~when the storage of the content in the memory has been completed~~, erases the image visibly presented in accordance with according to the preceding image structure information, on completion of storing the content in the memory.

7. (Currently Amended) The transmission and reception system for data broadcast of claim [[3]]1, wherein

the data broadcasting contents transmission means ~~further multiplexes video stream data, in which (a) visual data making up a first broadcast program whose content relates to the preceding data broadcasting content and (b) visual data making up a second broadcast program whose content relates to the data broadcasting content are continuously constructed, with the preceding data broadcasting content and the data broadcasting content, and transmits the multiplexed data, transmits the preceding data broadcasting content and the data broadcasting content which are multiplexed with video stream data, in which (a) visual data making up a first broadcast program relevant to the preceding data broadcasting content and (b) visual data making up a second broadcast program relevant to the data broadcasting content are continuously arranged,~~

the presentation schedule time is determined in advance so as to be concurrent with ~~the a~~ time when the receiving apparatus is due to start to present the visual data making up the second broadcast program ~~in the video stream data~~, and

the data broadcasting contents reception and presentation means ~~further receives the transmitted preceding video stream data and presents the broadcast program made up of each of the video stream data. data broadcasting content and the data~~

broadcasting content multiplexed with the video stream data, and presents each of the first and second broadcast programs.

8. (Cancelled)
9. (Currently Amended) The transmission and reception system for data broadcast of claim [[2]] 1, wherein

the data broadcasting contents transmission means ~~further multiplexes video stream data consisting of visual data making up a broadcast program whose content relates to the data broadcasting content with the data broadcasting content, and transmits the multiplexed data, transmits the data broadcasting content which is multiplexed with video stream data including visual data making up a broadcast program relevant to the data broadcasting content,~~

the presentation schedule time is determined in advance so as to be concurrent with the a time when the receiving apparatus is due to start to present the visual data making up the broadcast program in the video stream data, and

the data broadcasting contents reception and presentation means ~~further receives the transmitted video stream data and presents the broadcast program made up of each of the video stream data data broadcasting content multiplexed with the video stream data, and presents the broadcast program.~~

- 10-12. (Cancelled)

13. (Currently Amended) A transmission and reception method for data broadcast used in a system including a transmission apparatus which transmits a data broadcasting content and a receiving apparatus which receives and presents the transmitted data broadcasting content comprising:

a presentation schedule time obtaining step for obtaining a presentation schedule time when the data broadcasting content is to be presented, the obtaining step being performed at the transmission apparatus;

a data broadcasting contents content transmission step for starting to transmit the preceding data broadcasting content before the presentation schedule time by the transmission apparatus; and then the data broadcasting content before the presentation schedule time, each of the preceding data broadcasting content and the data broadcasting content being repeatedly transmitted, the content transmission step being performed at the transmission apparatus,

the preceding data broadcasting content including first control information including an instruction which instructs the receiving apparatus to, on reception of an invisible presentation instruction message, start to receive the data broadcasting content and designate the data broadcasting content to be presented,

the data broadcasting content including image structure information and second control information, the second information including

(a) an instruction which instructs the receiving apparatus to, when the data broadcasting content is designated to be presented, form an image according to the image structure information and invisibly present the image.

(b) an instruction which instructs the receiving apparatus to, on reception of a presentation start instruction message, visibly present the image; and

a message transmission step for (i) transmitting the invisible presentation instruction message at a time when the transmission apparatus starts to transmit the data broadcasting content in the data broadcasting content transmission step, and (ii) transmitting [[a]] the presentation start instruction message at the presentation schedule time, the message transmission step being performed at [[by]] the transmission apparatus;

a data broadcasting contents reception and presentation step for receiving the transmitted preceding data broadcasting content and invisibly presenting the data broadcasting content by the receiving apparatus, the invisible presentation of the data broadcasting content meaning a state where a series of processes relating to

~~the presentation prior to a process by which the data broadcasting content becomes visible are performed, and the broadcasting content still remains invisible, starting to receive the data broadcasting content on reception of the invisible presentation instruction message, designating the data broadcasting content to be presented on completion of receiving the data broadcasting content, forming the image in accordance with the second control information, and invisibly presenting the image, the reception and presentation step being performed at the receiving apparatus; and~~

~~a data broadcasting contents visualization step for, visualizing the invisibly presented data broadcasting content by the receiving apparatus, when the transmitted presentation start instruction message is received visibly present the image which has been invisibly presented in the data broadcasting contents reception and presentation step, on reception of the presentation start instruction message.~~

14. (Currently Amended) A transmission apparatus which transmits a data broadcasting content to a receiving apparatus which receives and presents the data broadcasting content, comprising:

~~a presentation schedule time obtaining means for obtaining a presentation schedule time when the data broadcasting content is to be presented;~~

~~a data broadcasting contents content transmission means for [[(a)]] starting to transmit [[a]] preceding data broadcasting content and then the data broadcasting content before the presentation schedule time, each of the preceding data broadcasting content and the data broadcasting content being repeatedly transmitted, including first control information including an instruction which instructs the receiving apparatus to, when an invisible presentation instruction message is received, start to receive the data broadcasting content and designate the data broadcasting content as an object for presentation,~~

~~(b) after the start of transmission of the preceding data broadcasting content, and before the presentation schedule time, starting to transmit the data~~

broadcasting content including image structure information in order to an image as an object for presentation and second control information;

the preceding data broadcasting content including first control information including an instruction which instructs the receiving apparatus to, on reception of an invisible presentation instruction message, start to receive the data broadcasting content and designate the data broadcasting content to be presented,

the data broadcasting content including image structure information and second control information, the second control information includes including

- (a) an instruction which instructs the receiving apparatus to, when the data broadcasting content becomes the object for interpretation is designated to be presented, form the an image according to the image structure information and keep the image being in an invisible state invisibly present the image, and
- (b) an instruction which instructs the receiving apparatus to, when the on reception of a presentation start instruction message is received, change the invisible state of the image into a visible state visibly present the image; and

a message transmission means for [(a)] (i) transmitting the invisible presentation instruction message at a time when the data broadcasting contents transmission means starts to transmit the data broadcasting content, and (ii) [(b)] transmitting the presentation start instruction message at the presentation schedule time.

15. (Currently Amended) The transmission apparatus of claim 14, wherein the data broadcasting contents transmission means further multiplexes video stream data, in which visual data making up a first broadcast program whose content relates to the preceding data broadcasting content and visual data making up a second broadcast program whose content relates to the data broadcasting content are continuously constructed, with the preceding data broadcasting content and the data broadcasting content, and transmits the multiplexed data, transmits the

preceding data broadcasting content and the data broadcasting content which are multiplexed with video stream data, in which (a) visual data making up a first broadcast program relevant to the preceding data broadcasting content and (b) visual data making up a second broadcast program relevant to the data broadcasting content are continuously arranged, and

the presentation schedule time is determined in advance so as to be concurrent with [[the]] a time when the receiving apparatus is due to start to present the visual data making up the second broadcast program in the video stream data.

16. (Cancelled)
17. (Currently Amended) A control program for enabling a transmission apparatus to perform a content transmission process in which the transmission apparatus transmits a data broadcasting content to a receiving apparatus which receives and presents the data broadcasting content, the content transmission process comprising:
 - a presentation schedule time obtaining step for obtaining a presentation schedule time when the data broadcasting content is to be presented;
 - a data broadcasting content transmission step for [[(a)]] starting to transmit [[a]] preceding data broadcasting content ~~including first control information including an instruction which instructs the receiving apparatus to, when an invisible presentation instruction message is received, start to receive the data broadcasting content and designate the data broadcasting content as an object for presentation, (b) after the start of transmission of the preceding and then the data broadcasting content, and before the presentation schedule time, each of the preceding data broadcasting content and the data broadcasting content being repeatedly transmitted,~~
~~starting to transmit the data broadcasting content including image structure information in order to an image as an object for presentation and second control information,~~

the preceding data broadcasting content including first control information including an instruction which instructs the receiving apparatus to, on reception of an invisible presentation instruction message, start to receive the data broadcasting content and designate the data broadcasting content to be presented,

the data broadcasting content including image structure information and second control information, the second control information includes including

- (a) an instruction which instructs the receiving apparatus to, when the data broadcasting content becomes the object for interpretation is designated to be presented, form the an image according to the image structure information and keep the image in an invisible state invisibly present the image, and
- (b) an instruction which instructs the receiving apparatus to, when the presentation start instruction message is received, change the invisible state of the image into a visible state on reception of a presentation start instruction message, visibly present the image; and

a message transmission step for [(a)] (i) transmitting the invisible presentation instruction message at a time when the data broadcasting contents transmission means starts to transmit the data broadcasting content starts to be transmitted in the data broadcasting contents transmission step, and (ii) [(, (b))] transmitting the presentation start instruction message at the presentation schedule time.